The Chesapeake Bay Program is a unique regional partnership that has coordinated and conducted the restoration of the Chesapeake Bay since 1983. Partners of the Chesapeake Bay Program include the states of Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia; the District of Columbia; the Chesapeake Bay Commission, a tristate legislative body; the Environmental Protection Agency, representing the federal government; the U.S. Department of Agriculture; and advisory groups of citizens, scientists and local government officials.

Contact Us: *Chesapeake Bay Program*
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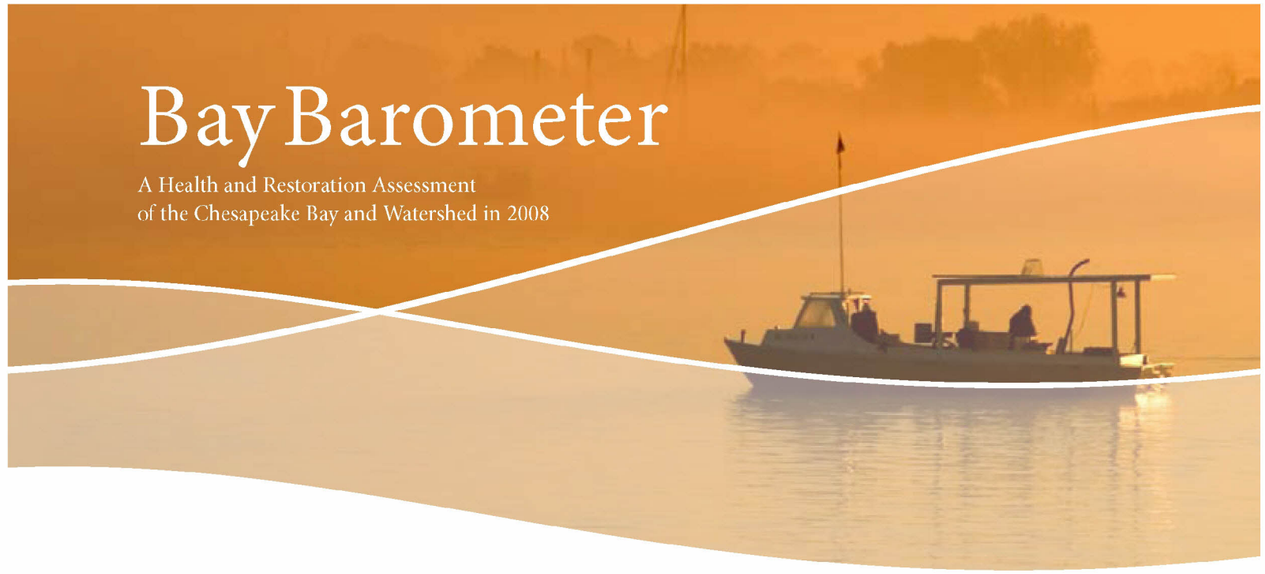
Chesapeake Bay Program
A Watershed Partnership

www.chesapeakebay.net

Bay Barometer

A Health and Restoration Assessment of the Chesapeake Bay and Watershed in 2008



EXECUTIVE SUMMARY

The Chesapeake Bay is one of the most extraordinary places in America. The unique estuary and its 64,000-square-mile watershed have tremendous ecological, historic, cultural, economic and recreational value to the region and the entire country.

For more than 25 years, the partners of the Chesapeake Bay Program have worked to protect and restore the Bay and its watershed. Goals are set for the health of the Bay and the restoration measures needed to return the ecosystem to a healthy state. *Bay Barometer: A Health and Restoration Assessment of the Chesapeake Bay and Watershed in 2008* is the annual review of the partnership's progress.

The Chesapeake Bay and its tributaries are unhealthy primarily because of pollution from excess nitrogen, phosphorus and sediment entering the water. The main sources of these pollutants are agriculture, urban and suburban runoff, wastewater, and airborne contaminants.

Despite small successes in certain parts of the ecosystem and specific geographic areas, the overall health of the Chesapeake Bay did not improve in 2008. The Bay continues to have poor water quality, degraded habitats and low populations of many species of fish and shellfish. Based on these three areas, the overall health averaged 38 percent, with 100 percent representing a fully restored ecosystem.

New restoration programs and projects were put in place in 2008, but resulted in only incremental gains toward goals. The indicators for restoration averaged 61 percent, with 100 percent meaning that all measures needed for a restored Bay have been implemented.

One of the greatest challenges to restoration is continued population growth and development, which destroys forests, wetlands and other natural areas. The impact of human activity is overwhelming nature and offsetting cleanup efforts.

Because the watershed's 17 million residents have a tremendous impact on its health, a section called "How You Can Help" was added to this report. It shows simple actions that people can take to help protect nature and reduce pollution. The Chesapeake Bay will only be restored through this type of collective effort.

Full report available at **www.chesapeakebay.net**

HEALTH 38%

RESTORATION 61%

Chesapeake Bay Program
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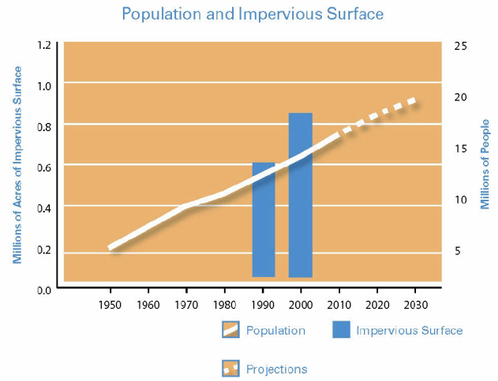
FACTORS IMPACTING THE BAY AND WATERSHED

LAND USE

The decline of the Chesapeake Bay is directly linked to the rise in population of the watershed – since 1950 the number of residents has doubled. Projections through 2030 show continued population growth, loss of natural areas and increases in urban development. People are moving into sprawling suburbs and living in bigger houses on larger lots, causing forests, farms and other valuable lands to be transformed into subdivisions, shopping centers and parking lots. Impervious surfaces such as roads and rooftops do not allow water to filter into the ground. Instead rainfall runs off, picking up pollution and quickly carrying it into waterways.

Population and Impervious Surface



RIVER FLOW AND POLLUTANT LOADS

Annual rain and snowfall affect how much water flows in rivers. The levels of pollution entering the Bay each year generally correspond with the volume of water that flows from its tributaries.

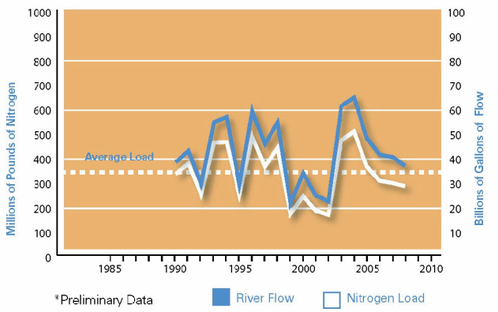
River Flow: Total river flow to the Bay during the 2008 water year (October 2007-September 2008) was 37.5 billion gallons per day (BGD). This is 3.5 BGD less than 2007 and 10 BGD less than the 47.2 BGD average flow from 1938-2008.

Nitrogen: Preliminary estimates indicate that 291 million pounds of nitrogen reached the Bay during 2008. This is 13 million pounds less than 2007 and 54 million pounds less than the 345 million pound average load from 1990-2008.

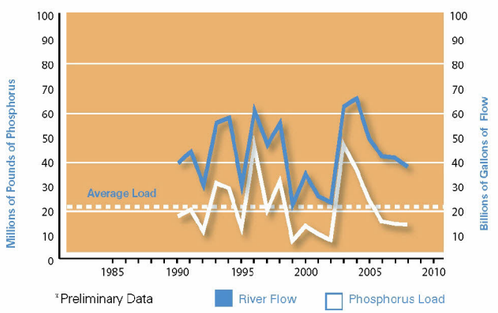
Phosphorus: Preliminary estimates indicate that 13.8 million pounds of phosphorus reached the Bay during 2008. This is similar to 2007 and 7.5 million pounds less than the 21.3 million pound average load from 1990-2008.

Sediment: Preliminary estimates indicate that 3.3 million tons of sediment reached the Bay during 2008. This is 700,000 tons more than 2007 and 800,000 tons less than the 4.1 million ton average load from 1990-2008.

Nitrogen Loads Reaching Chesapeake Bay*



Phosphorus Loads Reaching Chesapeake Bay*

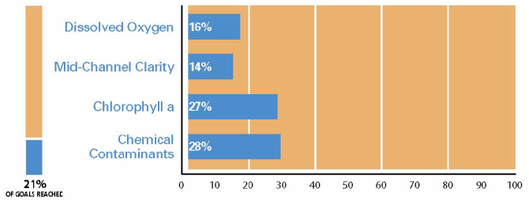


HEALTH – 38 PERCENT

The Chesapeake Bay ecosystem remains severely degraded. The Bay's health is measured by studying water quality, habitats, the lower food web and fish and shellfish. When all the goals for these areas are reached, it should mean a restored Bay. In 2008, the Chesapeake Bay was only at 38 percent of the desired health, which was the same as 2007. An increase in tidal tributary segments impaired due to chemical contaminants and a drop in the blue crab population were primary reasons for a lower score.

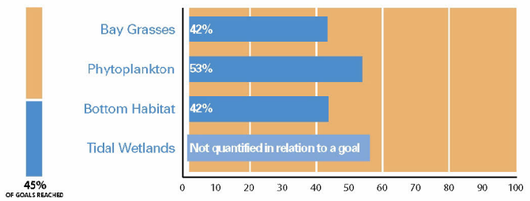
Water Quality – 21 percent

Water quality is the most important measure of the Chesapeake Bay's health. In 2008, water quality was again very poor, meeting only 21 percent of the goals, the same as 2007. Pollution led to murky water and algae blooms, which blocked sunlight from reaching bay grasses and created low levels of oxygen for aquatic life. Chemical contaminants impaired more water in 2008, resulting in a 6 percent decrease in that goal area.



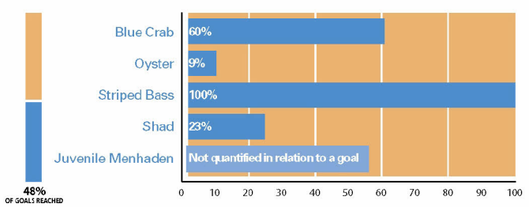
Habitats and Lower Food Web – 45 percent

Overall, the vital habitats and lower food web that support life in the Chesapeake Bay continued to be in bad shape in 2008, meeting 45 percent of the goals, the same as 2007. The positive news is that there was a 7 percent gain toward the goal for underwater bay grasses. On the negative side, goal achievement for algae fell 3 percent.



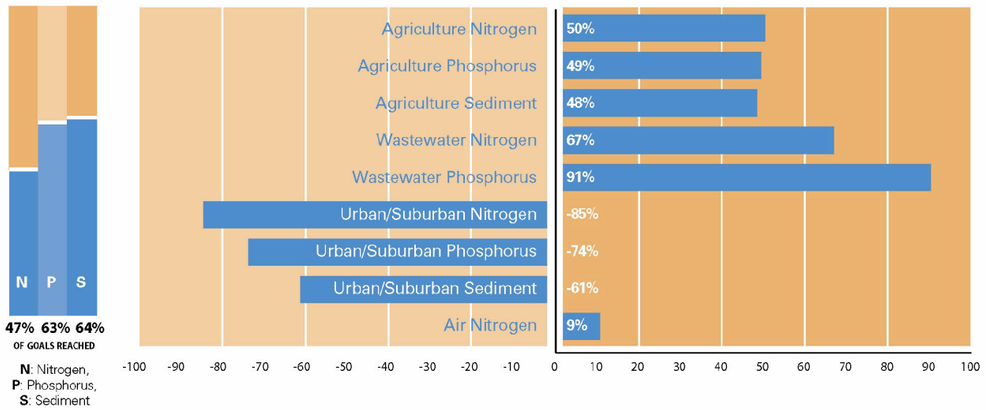
Fish and Shellfish – 48 percent

Most fish and shellfish populations in the Bay remain far below desired levels, and 2008 brought a 2 percent decrease in this goal area. This setback was driven by a drop of 23 million in the population of spawning-age blue crabs, which lowered progress toward the species goal by 11 percent. Oyster and shad populations remained at low levels.



RESTORATION – 61 PERCENT

To restore the Chesapeake Bay and its watershed, many measures must be put in place to reduce pollution, restore habitats, manage fisheries, protect watersheds and foster stewardship. Progress toward putting restoration measures in place continued in 2008, with a 4 percent gain, bringing the partnership to 61 percent of its goals. Population growth and development continue to hamper pollution-reduction efforts and remain the only source of pollution that is increasing. Steady progress was seen in several areas, and the goal for land preservation has been met.

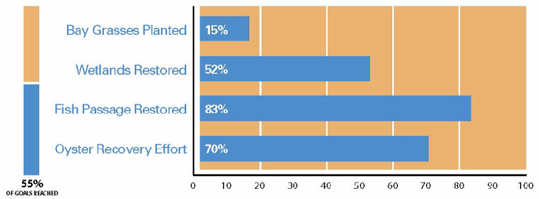


Reducing Pollution – 58 percent

Chesapeake Bay Program partners are focused on reducing pollution from the four primary sources: agriculture, wastewater, urban and suburban runoff, and air pollution. Based on available data, scientists project that 58 percent of the pollution reduction efforts needed to achieve the goals have been implemented since 1985, which is a 1 percent increase from 2007.

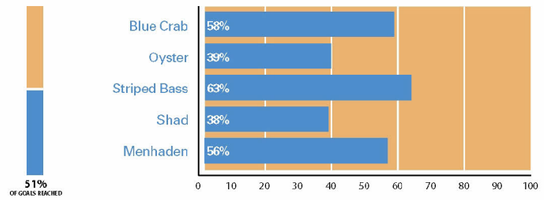
Restoring Habitats – 55 percent

Efforts to restore habitats throughout the watershed achieved modest gains in 2008, with progress toward the overall goal at 55 percent, an 11 percent increase from 2007. There were incremental gains in bay grasses planted, wetlands restored and fish passage restored. A goal was set for oyster recovery work, and achievement is at 70 percent.



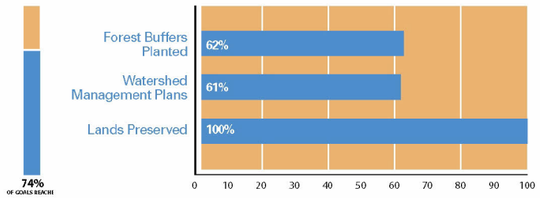
Managing Fisheries – 51 percent

Overall work to develop ecosystem-based fisheries management plans for blue crabs, oysters, striped bass, Atlantic menhaden and American shad stands at 51 percent, just a minimal gain from 2007. The score was increased by new restrictions on harvesting blue crabs and advancements in oyster research and aquaculture.



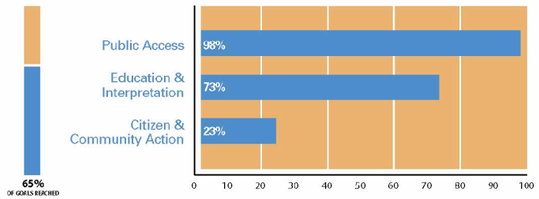
Protecting Watersheds – 74 percent

Progress was made toward protecting the thousands of smaller watersheds in the region during 2008, with a 3 percent gain toward the overall goal. Last year, the partnership met its goal for preserving 7 million acres of land. Work to plant forest buffers and develop watershed management plans also increased the score.



Fostering Stewardship – 65 percent

Programs to foster the public's stewardship of the Chesapeake Bay and its watershed resulted in a score of 65 percent. A 13 percent gain toward the goal for education contributed to the overall increase. To gauge citizen action, an effort was launched to measure volunteerism throughout the watershed.



HOW YOU CAN HELP

The effort to restore and protect the Chesapeake Bay will never be successful without the active involvement of the watershed's nearly 17 million residents. The citizens of the region all live within a short distance of a creek, stream, river or the Bay, and everything they do on land has an impact on the nearby waterways. By taking these small actions at home, at work and in the community, people can help create clean water and a healthy Chesapeake Bay.

For more details and more ways to help, visit us online at **www.chesapeakebay.net/helpthebay.aspx**.

1 Pick up after your pet.

It's a dirty job, but picking up after your pet makes a big difference in keeping our local waterways clean. Pet waste contains nitrogen, phosphorus and bacteria, which are harmful to our streams, rivers and the Bay. So make sure to always pick up after your pet, whether you're at the park, on a sidewalk or in your backyard.

2 Volunteer for a watershed group.

Watershed groups work to restore and protect the streams, creeks and rivers that flow to the Bay. These groups perform much of the on-the-ground restoration that takes place around the Bay region, but they rely on volunteers to make their efforts successful. To find your local watershed group, visit www.chesapeakebay.net/findabaygroup.aspx.

3 Don't fertilize your lawn.

We all want a green, healthy lawn for our kids to play on and our neighbors to envy. But chemical fertilizers used to achieve that lush look are a major source of pollution in local streams, rivers and the Bay. When rain washes fertilizers off thousands of suburban lawns across the region, the Bay receives more nitrogen and phosphorus than it can handle.

4 Install a rain barrel and rain garden.

Rain barrels attach to downspouts and collect rainwater that would otherwise flow onto your lawn, driveway or street and carry pollutants. The rainwater can then be used to water your garden and houseplants, saving money on water bills. For more benefits, add a rain garden – a depression with many plants that collects, absorbs and filters runoff. Check out rain garden designs at www.lowimpactdevelopment.org/raingarden_design.

5 Use a phosphorus-free dishwasher detergent.

Check the label on your dishwasher detergent – most contain phosphorus, a type of nutrient that pollutes the Bay. Switching to a phosphorus-free dishwasher detergent is a simple, effective way to help reduce the amount of pollution that enters local waterways and the Bay.

6 Drive your car less.

Yes, we're all attached to our cars to get to work, school and stores. But emissions from all those vehicles are a significant source of nitrogen pollution in our local waterways and the Bay. If all of us reduced our driving, we'd see positive changes in the health of the Bay.

7 Plant native trees and shrubs.

Trees and shrubs planted around the edges of your property absorb runoff, filtering out pollutants that would otherwise flow to the nearest stream or storm drain. Trees and shrubs also help prevent erosion, absorb airborne pollutants, buffer noise, and provide food and habitat for wildlife. Choose native plants at www.nps.gov/plants/pubs/Chesapeake/toc.htm.